

In the Claims.

The following list of Claims replaces all prior versions.

1. (canceled)
2. (previously presented) A sample holder as in claim 10, wherein the material is functionally transparent to near-infrared light.
3. (previously presented) A sample holder as in claim 10, wherein the material is functionally transparent to mid-infrared light.
4. (canceled)
5. (canceled)
6. (canceled)
7. (canceled)
8. (canceled)
9. (canceled)
10. (previously presented) A sample holder comprising a body, of a material that is functionally transparent to at least some wavelengths of visible light, and functionally transparent to at least some wavelengths of infrared light, and that defines:
 - a. A first face, defining a region adapted to support an ex vivo sample, where the first face is substantially planar in the region;
 - b. A second face, substantially parallel to the first face;
 where the body has a length of from 0.25 to 4 inches, a width of from 0.1 to 1.5 inches, and a thickness of from 0.01 to 0.1 inches.
11. (original) A sample holder as in claim 10, wherein the body has a length of about 3 inches, a width of about 1 inch, and a thickness of about 0.04 inch.
12. A sample holder as in claim 10, wherein the body has a length of 0.25 inches to 2.5 inch, a width of 0.1 inches to 1 inch, and a thickness of 0.01 to 0.1 inches.
13. (presently amended) A sample holder as in claim 10, wherein the sample holder index of refraction is amenable to attenuated total internal reflection of infrared light.
14. (presently amended) A sample holder as in claim 10, wherein the sample holder index of refraction is from 1.3 to 3.5.
15. (presently amended) A sample holder as in Claim 10, wherein the material comprises a constituent chosen from the group consisting of: Barium Fluoride, Caesium Iodide, Calcium Fluoride, Cubic Zirconium, Diamond, Lithium Fluoride, Magnesium Fluoride, Potassium Bromide, Potassium Chloride, Quartz, Sapphire, Silver Bromide, Silver Chloride, Sodium Chloride, Thallium Bromide, Thallium Bromo-Iodide, Thallium Bromo-Chloride, Zinc Selenide, Zinc Sulfide, and Multispectral Zinc Sulfide.
16. (presently amended) A sample holder as in Claim 10, wherein the material separating the first and second faces defines first and second opposing edges, where the first and second opposing edges intersect the first face along substantially parallel lines, and wherein the first and second edges are oriented at first and second angles, respectively, to the first face.
17. (original) A sample holder as in claim 16, wherein the first and second angles are about 90 degrees.
18. (original) A sample holder as in claim 16, wherein the first and second angles are substantially equal.
19. (original) A sample holder as in claim 16, wherein the second edge intersects the second surface at an angle substantially the same as the first angle.
20. (original) A sample holder as in claim 16, wherein the first angle is in the range from 10 to 90 degrees.
21. (original) A sample holder as in claim 16, wherein the first angle is about 50 degrees.
22. (original) A sample holder as in claim 16, wherein the first and second edges are finished to an optically smooth surface.
23. (presently amended) A sample holder as in claim 16, wherein the first and second edges are treated with at least one of:

- a. an antireflective coating;
- b. a selective spectral transmission coating.
- 24. (canceled)
- 25. (canceled)
- 26. (canceled)
- 27. (previously presented) A sample holder comprising:
 - a. a frame,
 - b. a sample interface mounted with the frame, where the sample interface comprises:
 - i. a material that is functionally transparent to at least some wavelengths of visible light and functionally transparent to at least some wavelengths of infrared light, and that defines
 - ii. a first face, defining a region adapted to support an ex vivo sample, where the first face is substantially planar in the region;
 - iii. a second face, substantially parallel to the first face;
 where the frame has a length of from 1 to 4 inches, a width of from 0.5 to 1.5 inches, and a thickness of from 0.01 to 0.1 inches.
- 28. (original) A sample holder as in Claim 27, wherein the frame has a length of about 3 inches, a width of about 1 inch, and a thickness of about 0.04 inch.
- 29. (previously presented) A sample holder as in Claim 27, wherein the sample interface index of refraction is amenable to attenuated total internal reflection of light in the mid-infrared region.
- 30. (presently amended) A sample holder as in Claim 27, wherein the material comprises a constituent chosen from the group consisting of: Barium Fluoride, Caesium Iodide, Calcium Fluoride, Cubic Zirconium, Diamond, Lithium Fluoride, Magnesium Fluoride, Potassium Bromide, Potassium Chloride, Quartz, Sapphire, Silver Bromide, Silver Chloride, Sodium Chloride, Thallium Bromide, Thallium Bromo-Iodide, Thallium Bromo-Chloride, Zinc Selenide, Zinc Sulfide, or and Multispectral Zinc Sulfide.
- 31. (previously presented) A sample holder as in Claim 27, wherein the material separating the first and second faces defines first and second opposing edges, where the first and second opposing edges intersect the first surface along substantially parallel lines, and wherein the first and second edges are oriented at first and second angles, respectively, to the first surface.
- 32. (original) A sample holder as in Claim 31, wherein the first and second angles are about 90 degrees.
- 33. (original) A sample holder as in Claim 32, wherein the first and second angles are substantially equal.
- 34. (original) A sample holder as in Claim 31, wherein the second edge intersects the second surface at an angle substantially the same as the first angle.
- 35. (original) A sample holder as in Claim 31, wherein the first angle is in the range from 10 to 90 degrees.
- 36. (original) A sample holder as in Claim 31, wherein the frame defines an opening, wherein the opening is adapted to mount with the sample interface leaving space between the frame and the sample interface adjacent the first and second edges.
- 37. (original) A sample holder as in Claim 36, wherein the space accommodates substantially unobstructed passage of light to the sample interface.
- 38. (original) A sample holder as in Claim 36, wherein the sample interface mounts with the frame using ledges on the frame, clips mounted with the frame and engaging the sample interface, clips mounted with the sample interface and engaging the frame, an interference fit of the frame and the sample holder, an adhesive in contact with the sample holder and the frame, or a combination thereof.
- 39. (canceled)
- 40. (canceled)